

IN THE DRAWINGS

The attached sheets of drawings includes changes to Figs. 1-20d. These sheets, which include Figs. 1-20d, replace the original sheets including Figs. 1-20d.

Attachment: Replacement Sheets

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 31-66 are presently active in this case. The present Amendment amends Claims 31 and 41; and adds Claims 61-66.

The outstanding Office Action objected to the specification, drawings and claims because of informalities. Claims 31-60 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 31-32, 34-36 38, 41-58, and 60 were rejected under 35 U.S.C. § 102(b) as anticipated by Oota et al. (U.S. Patent No. 5,740,341). Claims 33 and 37 were rejected under 35 U.S.C. § 103(a) as unpatentable over Oota et al. in view of Ozaki (U.S. Patent No. 7,200,537).

Claims 39-40 and 59 were indicated as allowable if rewritten in independent form. Applicant acknowledges with appreciation the indication of allowable subject matter.

In response to the objections to the specification because it does not include the foreign priority in its first paragraph, Applicant respectfully points out that such information is no longer required in the specification if the foreign priority application is mentioned in the Application Data Sheet, which is the case in the present application. See MPEP § 201.11-III-D.

In response to the objection to the drawings, submitted herewith is a Letter Submitting Replacement Drawing Sheets along with 19 Replacement Sheets for Figs. 1-20d with the appropriate drawing descriptions in English.

In response to the objection to the preamble of Claims 31 and 41, these claims are amended to correct the noted informality.

In response to the rejection under 35 U.S.C. § 112, second paragraph, Claim 31 and 41 are amended to clarify the evaluating step, as required by the Examiner. In view of

amended Claims 31 and 41, it is believed that all pending claims are definite and no further rejection on that basis is anticipated. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually acceptable language.

In order to clarify Applicant's invention, Claims 31 and 41 are amended to specify that each zone includes a plurality of the routing points, at least one of the connecting points, and a plurality of the electrical and electronic components. These features find non-limiting support in the disclosure as originally filed, for example at page 19, lines 15-22 and Fig. 4.

In order to vary the scope of protection recited in the claims, new Claims 61-66 are added. New Claims 61-66 find non-limiting support in the disclosure as originally filed, for example at page 20, lines 17-18; page 21, lines 4-26; and page 22, lines 1-12. Therefore, the changes to the claims are not believed to raise a question of new matter.<sup>1</sup>

In response to the rejection of the claims under 35 U.S.C. § 102(b), Applicant respectfully requests reconsideration of this rejection and traverses the rejection, as discussed next.

Briefly recapitulating, Applicant's invention, as recited in Claim 31, relates to a method for synthesizing a routing for an electrical and electronic architecture of at least one part of a product including electrical wires and electrical and electronic components. In the claimed method, *a geometry of the product, divided into different zones*, is represented in two dimensions. Routing points for routing *of the electrical wires* are mapped into the different zones, wherein each zone includes a plurality of the routing points. Connecting points between the different zones are mapped, wherein each zone includes at least one connecting point. The *electrical and electronic components are mapped* into the different zones,

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<sup>1</sup> See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

wherein each zone includes a plurality of the electrical and electronic components. A routing synthesis is then undertaken as a function of the geometry of the different zones and of the positions of the routing points, of the connecting points, and of the components. An evaluation of the routing is then undertaken on a basis of quality and/or cost of the routing. Depending on the result of the evaluation, the method modifies sites the routing points, the connecting points, and/or the electrical and electronic components, and repeats the routing synthesis and evaluation.

Turning now to the applied prior art, the Oota et al. patent discloses a system for arrangements, pipe routing, etc. of plant components using a three-dimensional CAD system. The Oota et al. system includes 3-D component mapping, interactive mapping and automatic mapping. The interactive mapping includes displaying the components and interactively moving these components.

However, the Oota et al. patent fails to teach the claimed method. In particular, the Oota et al. patent fails to disclose the claimed step of representing the geometry of the product, *divided into different zones*, in two dimensions, as required by Claims 31 and 41. The outstanding Office Action's rejection is based on the position that the Oota et al. patent discloses this step in Fig. 6, processes [2]-[5], col. 27, lines 17-35.<sup>2</sup> Applicant respectfully disagrees. The Oota et al. Fig. 6 is a flow diagram illustrating a flow of data in the plant design and production throughout the system. The processes [2]-[5] are discussed from column 8, line 29 to column 9, line 28. While the words "two-dimensional" are mentioned in this passage, this passage and Fig. 6 do not disclose a step of representing the geometry of a product, *divided into different zones*. Column 23, lines 17-25 relates to Fig. 22, which shows the automatic component arrangement process. In this process, a target object is arranged in to a space and a *space* is divided into an arranged space and into a non-arranged space.

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<sup>2</sup> The outstanding Office Action at page 4, first full paragraph.

However, this passage does not disclose a step of representing the geometry of a product, divided into different zones, much less zones of a product which each include a plurality of the routing points, at least one of the connecting points, and a plurality of the electrical and electronic components, as now required by amended Claims 31 and 41.

The Oota et al. patent further fails to disclose the claimed step of mapping routing points for routing *of the electrical wires* into the different zones, as required by Claims 31 and 41. The outstanding Office Action's rejection is based on the position that the Oota et al. patent discloses this step in Fig. 6, Fig. 7(2), column 22, line 32 to Column 23, line 20.<sup>3</sup> Applicant respectfully disagrees. In Fig. 7(2) group cells 701 (7011, 7012, and 7013) manage component arrangement information of component A and B and system line information of system lines 6021 and 6022. The group cells also manage three-dimensional arrangement information of components 601 generated by the component arrangement design support processing 507 and routing information of route 604 generated by the routing design support processing 509. The group cell 7011 manages a pointer 702 to the next group cell 7012, a pointer 703 to a point cell, a pointer 704 to an attribute cell, and group information 705. The group information 705 manages a flag F for identifying an object to be managed. Each point cell 706 (7061 to 7066) manages information of locations of components A and B and arrangement information of the part 603 and curving points of the system line 602 and the route 604. Thus, this figure does not disclose electrical wires, much less the mapping of routing points for *routing of electrical wires* into the different zones of a product, as required by Claims 31 and 41. Nor do any of the other cited portions of the Oota et al. patent disclose the claimed step.

The Oota et al. patent further fails to disclose the claimed step of mapping *electrical and electronic components* into the different zones, wherein each zone includes a plurality of

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<sup>3</sup> The outstanding Office Action at page 4, second full paragraph.

the electrical and electronic components. The outstanding Office Action's rejection is based on the position that the Oota et al. patent discloses this step in Fig. 6, Fig. 7(2), Fig. 19, box [101], column 12, line 43 to Column 13, line 15; and column 22, line 32 to column 23, line 20.<sup>4</sup> Applicant respectfully disagrees. Fig. 19 discloses a computer (box [101]) which allows a user 106 to modify the three-dimensional component arrangement information 104 via an I/O interface 105 to generate more three-dimensional component arrangement information 104, which may be stored in the database 107. Thus, this figure does not disclose the *mapping of* the computer 101, much less the mapping of computers into the different zones of a product wherein each zone includes a plurality of the electrical and electronic components, as now required by amended Claims 31 and 41. Nor do any of the other cited portions of the Oota et al. patent disclose the claimed step.

Therefore, the prior art fails to disclose every feature recited in Applicant's claims, so that Claims 31-66 are not anticipated by the prior art. Accordingly, Applicant respectfully traverses, and requests reconsideration of, the 35 U.S.C. § 102 rejection based on the Oota et al. patent.<sup>5</sup>

In response to the rejection of the claims under 35 U.S.C. §103(a), Applicant respectfully requests reconsideration of this rejection and traverses the rejection. As discussed above, the Oota et al. patent fails to disclose Applicant's claimed steps recited in Claims 31 and 41. The Ozaki patent does not remedy these deficiencies. Therefore, even if the combination of the Oota et al. patent and the Ozaki patent is assumed to be proper, the

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<sup>4</sup> The outstanding Office Action at page 4, third full paragraph.

<sup>5</sup> See MPEP 2131: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," (Citations omitted) (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

combination fails to teach every element of the claimed invention. Accordingly, Applicant respectfully traverses, and requests reconsideration of, this rejection based on these patents.<sup>6</sup>

Applicant respectfully further traverses the obviousness rejection based on the Oota et al. patent and the Ozaki patent because there is no apparent reason to combine these reference in order to obtain the claimed invention.<sup>7</sup> There is no apparent reason for one of ordinary skill in the art to apply the Oota et al. piping routing method to a wire harness for a vehicle. The Office Action points to the Ozaki patent at column 1, lines 40-56.<sup>8</sup> This portion merely teaches to one of ordinary skill that there are drawbacks with the conventional method of manually creating a drawing of a wire harness two-dimensionally on the basis of a routing design of the wire harness using a three-dimensional CAD. However, the Ozaki patent also teaches to one of ordinary skill in the art that the solution to this problem is the method disclosed in the Ozaki patent. See e.g., the Ozaki patent at column 1, lines 61-65. A person of ordinary skill in the art would thus not find it obvious to modify this method and turn to a method of routing pipes to further improve on the Ozaki method. In addition, there is no evidence that the Oota et al. piping routing method would provide any improvement beyond that of the Ozaki method.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 31-66 is earnestly solicited.

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<sup>6</sup> See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

<sup>7</sup> See *Ex Parte Smith*, at page 14 (citing *KSR*, 127 S.Ct. at 1740-41, 82 USPQ2d at 1396.).

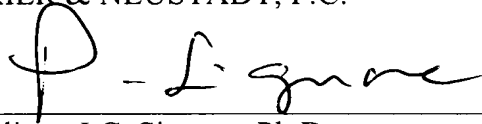
<sup>8</sup> The outstanding Office Action at page 10, last paragraph.

Application No. 10/532,105  
Reply to Office Action of January 3, 2008

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

A handwritten signature in black ink, appearing to read "P. J. Signore", written over a horizontal line.

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